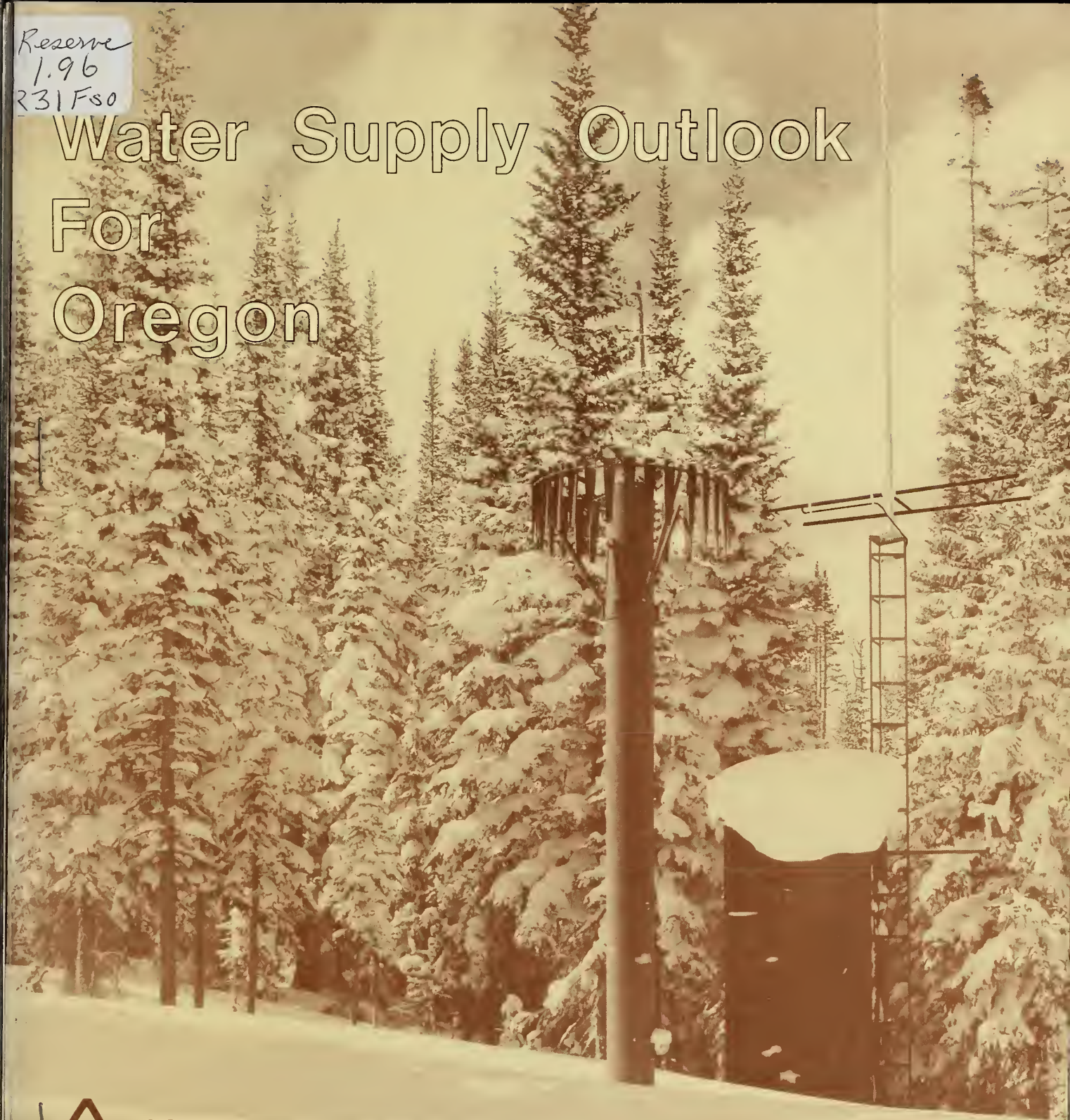
Water Supply Outlook For Oregon



SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

OREGON DEPARTMENT OF WATER RESOURCES

AS OF
OCT. 1, 1979

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These meosurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course ond soil moisture measurements are presented in state and locol reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at volley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storoge in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: VIEW OF A SNOTEL DATA SITE IN THE SNOWY RANGE IN WYOMING. TALL CYLINDRICAL DEVICE IS A PRECIPITATION GAGE. SNOW PILLOWS ON THE GROUND NOT VISIBLE DUE TO SNOW COVER. SHELTER HOUSE, ANTENNA TOWER, ANTENNA, AND TEMPERATURE UNIT ARE VISIBLE BEHIND THE PRECIPITATION GAGE.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Cosper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

WATER SUPPLY OUTLOOK FOR OREGON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

OCTOBER 1, 1979

Issued by

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PORTLAND OREGON

In Cooperation with

OREGON
DEPARTMENT
OF
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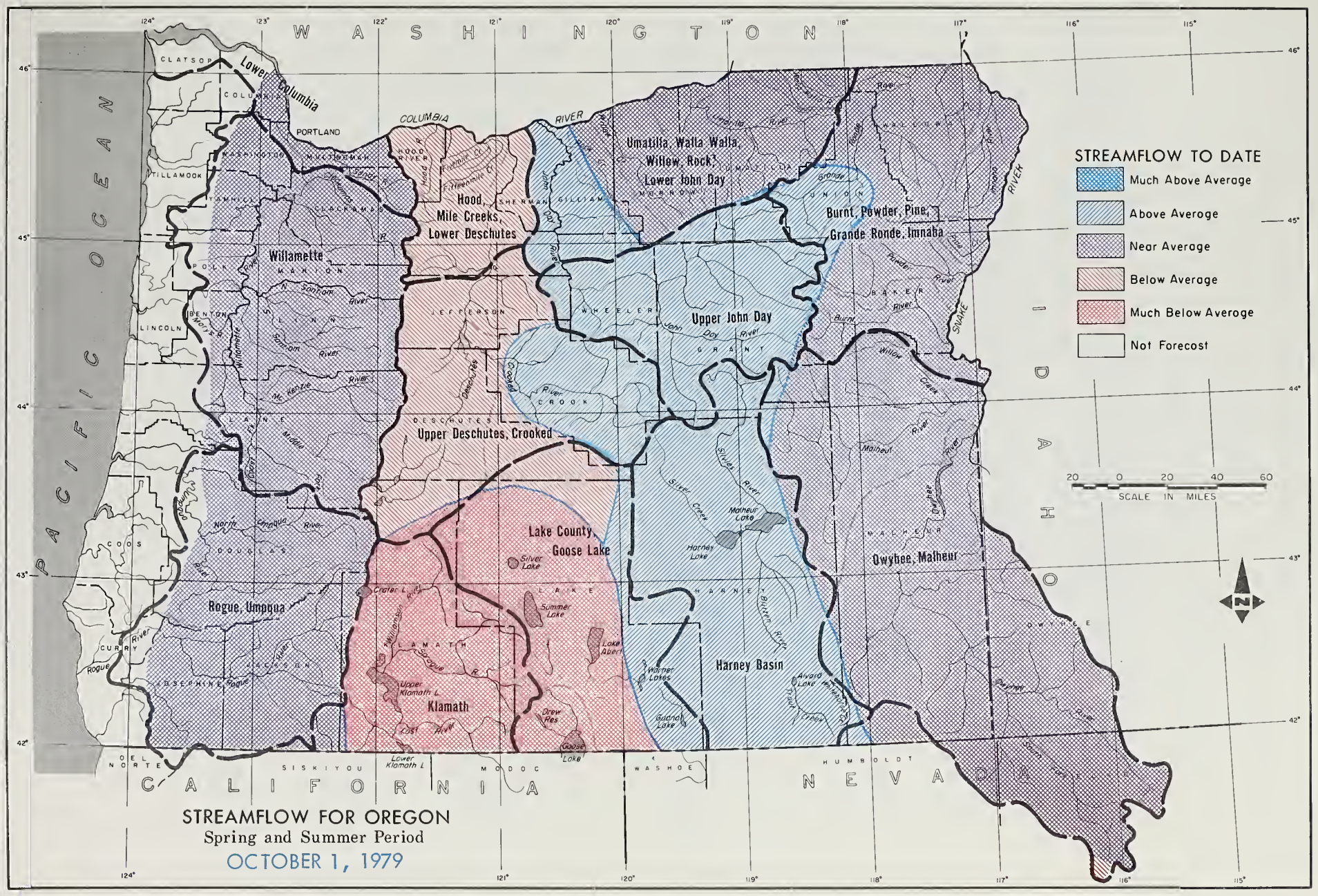


STREAMFLOW FOR OREGON

Spring and Summer Period

OCTOBER 1, 1979

WATER SUPPLY OUTLOOK AND SUMMARY

FOR OREGON

OCTOBER 1, 1979

Most irrigation requirements in western Oregon were met with some exceptions reported, primarily from direct diversion users. These were in Josephine and Curry Counties. In Jackson County irrigation districts traded water to help other districts meet their needs.

In central Oregon water was not as plentiful. Irrigation districts reported some shortages in Hood River, Deschutes and Jefferson Counties. Klamath and Lake Counties water supplies were not adequate. In contrast generally good water supply was reported in Crook, Wheeler, Grant and Harney Counties.

Eastern Oregon water supplies were adequate in general. The Baker-LaGrande area reported no shortages. Some streams in the Umatilla drainage produced slightly below average runoff. No shortages were reported in the Owyhee drainage.

RESERVOIR STORAGE

Twenty-four major reservoirs around the state reported a total storage of 1,111,000 acre feet. This is 76% of the volume usually in storage in these reservoirs on October 1. However, ten of these reservoirs reported above average storage for October 1.

STREAMFLOW

Streamflow during late summer was below average on most parts of the state due to the lack of summer rain and extended periods of hot weather. However, streamflow over the April-September period was near or above normal in most areas with the exception of central Oregon. This was in part due to the extremely high runoff in April and early May due to heavy rain. The average to above average snowpack in eastern Oregon also helped to maintain streamflow in these areas.

April-September streamflow was near average in western Oregon, northeastern Oregon and the Owyhee drainage. Harney Basin and the John Day, Grande Ronde and Crooked River drainages had above average streamflow. The Deschutes River basin was below average and streamflow in Klamath and Lake Counties was much below average.

Summer precipitation was below average over most of the state. Only the Owyhee-Malheur area and Harney Basin had normal precipitation over the April-September period. Some heavy rain did occur in August and early September, but its effect was short lived.

-more-

Summary continued -

Crop damage from the August rain was reported in Multnomah County to wheat, potatoes and red clover seed crops. Damage to table beets was reported in Polk County.

Range forage production was affected by cool spring weather and a dry summer. Reports of reduced production came from Curry, Harney, Klamath, Crook, Grant and Baker Counties. Grasshopper infestations also affected forage and hay production in many counties, especially in central and eastern Oregon.

Representative streamflow for this summer as a percent of average versus the April 1 forecast is as follows:

	Period	Observed Flow	April 1 Forecast
Owyhee Net Inflow	April-July	95%	165%
	April-Sept.	97%	162%
Chewaucan Near Paisley	April-July	49%	61%
	April-Sept.	51%	62%
Grande Ronde at LaGrande	April-July	150%	99%
	April-Sept.	148%	99%
Middle Fk. of Willamette Near Oakridge	April-July	114%	87%
	April-Sept.	110%	87%
Rogue at Raygold	April-July	93%	62%
	April-Sept.	92%	63%
Upper Klamath Lake	April-July	59%	50%
	April-Sept.	63%	55%

Following is a summary of water supply conditions as reported by county.

NORTHWEST OREGON - AREA 1

Polk - Adequate water supply but damage to table beet crop due to late August storms.

Yamhill - No water shortage reported. 1400 acres reported under irrigation.

Columbia - Water supplies were adequate. Irrigation was applied to 10,000 acres. Forage crops did well.

Clatsop - No irrigation water shortages reported.

Multnomah - Irrigation water supply was adequate. Some shallow wells developed yield problems from over-pumping. August rain did produce some crop damage as 1000 acres of wheat sprouted, potato blight developed and red clover seed crops were affected. Most crop yields were good.

-more-

Summary continued -

WESTERN OREGON - AREA 2

Coos - Water supplies were normal in this area, but due to lack of reservoir storage some direct diversion users ran short.

Benton - Irrigation water was available in normal volume for 22,000 acres. No shortages of water were reported.

Lane - No water shortages were reported in this area.

Josephine - The Watermaster's Office reports that 65-70% of the 58,000 acres normally irrigated by the Grants Pass Irrigation District received adequate water. Another 6000 acres outside this district reported insufficient irrigation water.

Jackson - No serious water shortages were reported on irrigated land. This was in part due to the fact that Medford Irrigation District augmented their normal supply with water from Talent Irrigation District. Talent I.D. reported a water surplus at the end of their season. Pear and wheat harvests were very good.

Lincoln - No water deficiencies reported.

Douglas - The water season was reported as being similar to last year. Most irrigated areas received full water supplies, but some shortages occurred in late season due to minimum flow regulations.

Linn - Irrigation was adequate on 42,000 acres of row crops, close grown field crops and hay and pasture. With a few exceptions most streams and wells provided adequate water supply.

Curry - Available irrigation was reported to be below average during the summer months. Of 2800 acres under irrigation, 310 acres were affected by insufficient water. Ground water fluctuated from slightly above to slightly below normal over the summer. Non-irrigated forage production was down due to dry conditions and grasshopper damage.

CENTRAL OREGON - AREA 3

Harney - Above normal irrigation water was available from streamflow. Approximately 258,400 acres were effectively irrigated. Forage volume was below normal due to a cool spring and dry summer. August rain helped to begin soil moisture recharge.

Hood River - All irrigation districts except one reported adequate water supply for approximately 20,000 acres normally serviced. One district reported only 55-60% of normal water available with 2200 acres affected by insufficient water supply.

-more-

Summary continued -

Klamath - Water supplies were below normal this year. Pasture and hay production were down although irrigated areas fared better than non-irrigated land. Grasshopper infestation also accounted for reduced production. Upper Klamath Marsh forage production is estimated at 25% of normal. Many irrigated areas had insufficient water.

Jefferson - Streams were judged to have average or better flow, but these streams did not provide for full irrigation needs. North Unit Irrigation District reported no serious shortages of water although an additional allotment had to be made to users in September.

Moro - Water supply was not adequate for normal irrigation needs and some crop yield reductions were the result.

Crook - Prineville and Ochoco Reservoirs supplied all irrigation needs on 19,500 acres served by the Ochoco Irrigation District plus 6000 acres additional. Above the reservoirs 8500 acres were irrigated but water ran short in August and September. Mountain grass supply was short this year for grazing.

Deschutes - Water supplies were below average but most irrigation districts had sufficient water. On Squaw Creek large users have been using wells to supplement their delivered water. Tumalo Irrigation District was short of water - 60% delivery since mid-July and reserve storage is used up.

Lake - Warner Mt. area was near normal for water supply, but other parts of Lake County were below average. The area west of Lakeview was approximately 60-70% of normal. The Silver Lake area was estimated at 45% to 55% of normal runoff.

EASTERN OREGON - AREA 4

Grant - Most drainages have had near normal water yield. Summer flows remained high due to deep mountain snowpack. Late spring was dry and cool and low mountain range forage was below average. Weather conditions reduced hay production. Indian Creek and the main John Day River areas reported some water shortages and late water rights were cut back on deliveries.

Wheeler - No shortages in water supply or cut back in irrigated acres were reported.

Union - Streamflow was near average. Approximately 65,000 acres were irrigated with no shortages. Wolf Creek Reservoir was responsible for adequate irrigation on 12,000 of these acres.

Umatilla - Four irrigation districts reported normal and adequate water supply. Two districts were 5% to 10% below normal. One used up their allotted stored water.

Summary continued -

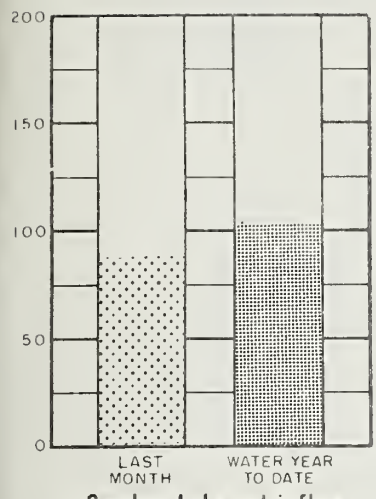
Baker - The 130,000 acres of irrigated land received normal water supplies. Hay yields were down slightly due to cool spring weather. Lack of summer rain and grasshopper infestations reduced range and pasture forage.

This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators.

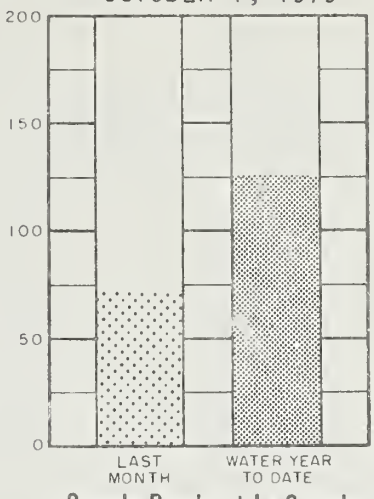
CURRENT OREGON STREAMFLOW

PERCENT OF 1963-77 AVERAGE

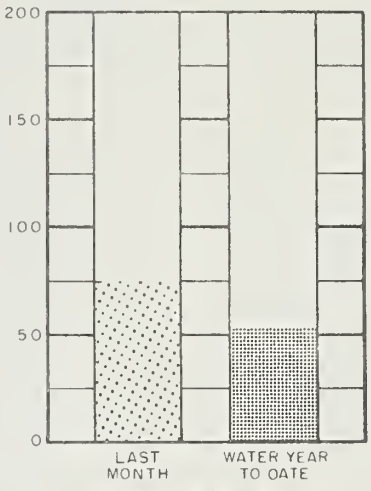
OCTOBER 1, 1979



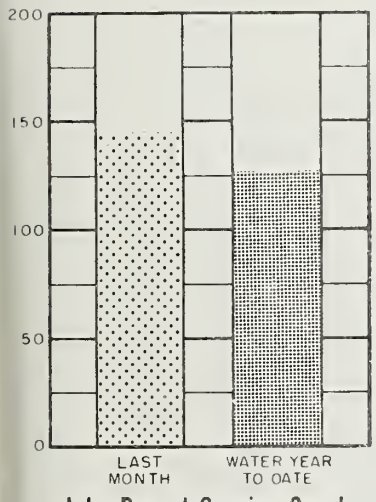
Owyhee Lake net inflow



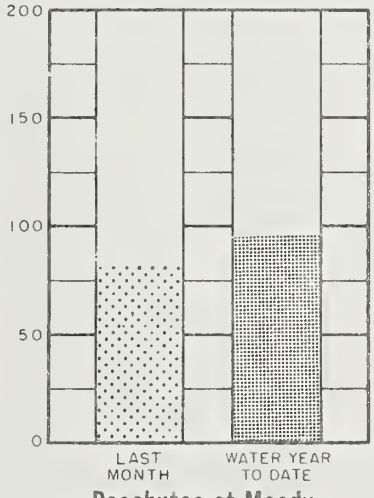
Grande Ronde at La Grande



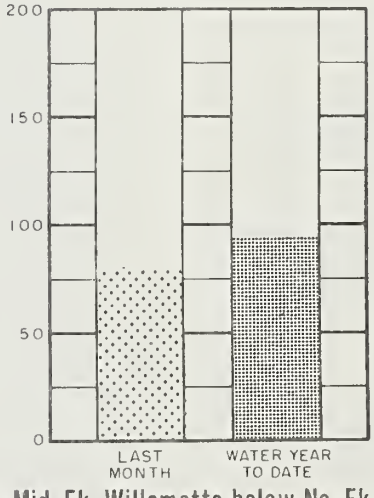
Chewaucan nr. Paisley



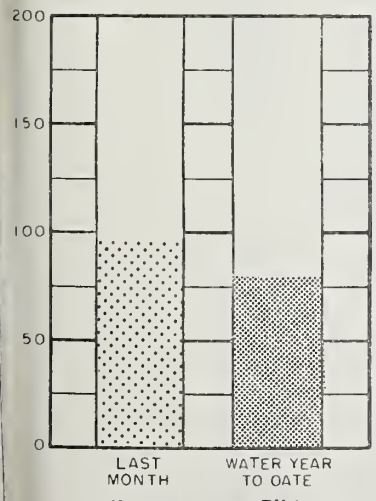
John Day at Service Creek



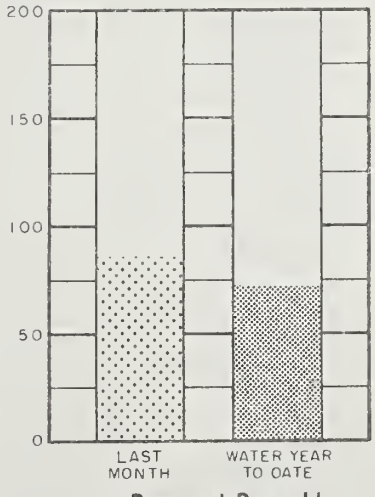
Deschutes at Moody



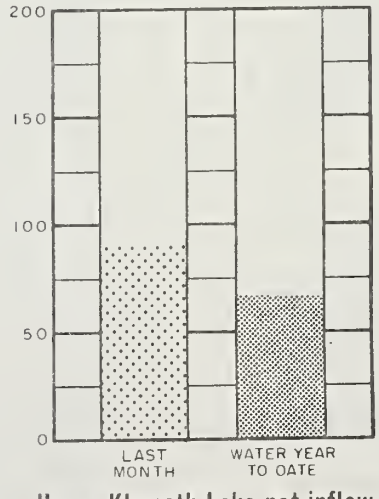
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

USDA-SCS-PORTLAND, OREG. 1974 M7-L-22026A

STATUS OF RESERVOIR STORAGE, OCTOBER 1, 1979

RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE ABOUT OCT. 1 1979	1978	15-Year Average 1963-77
UPPER COLUMBIA DRAINAGE				
Owyhee	715.0	441.7	442.3	378.9
Beulah Reservoir	60.0	5.2	2.5	9.0
Bully Creek	30.0	9.1	9.2	6.7
Warmsprings	191.0	65.6	62.5	61.3
Phillips Lake	73.5	39.6	41.4	36.5
Unity	25.2	2.8	4.4	3.0
Thief Valley	17.4	N/R	7.9	4.6
Wallowa Lake	37.5	11.3	30.5	15.2
Wolf Creek	10.4	2.5	5.9	--
LOWER COLUMBIA DRAINAGE				
Cold Springs	50.0	3.4	2.9	3.2
McKay	73.8	10.3	18.1	9.8
Ochoco	47.5	22.0	30.0	16.7
Prineville	153.0	97.5	106.6	95.3
Crane Prairie	55.3	11.1	28.2	21.3
Crescent Lake	86.9	15.9	34.9	45.1
Wickiup	200.0	29.3	55.4	61.3
Clear Lake (Wasco)	11.9	N/R	N/R	2.6
Blue River	85.6	13.3	18.2	17.4
Cottage Grove	30.0	12.8	13.3	6.7
Cougar	155.2	53.9	98.4	84.1
Detroit	299.9	161.2	178.6	179.4
Dorena	70.5	28.6	30.5	18.7
Fall Creek	115.0	68.9	59.0	31.2
Fern Ridge	94.2	78.3	77.8	62.4
Foster	30.0	25.1	25.4	23.2
Green Peter	270.0	144.5	155.2	116.0
Hills Creek	200.0	79.9	92.1	102.5
Lookout Point	337.2	173.0	136.5	202.4
Timothy Lake	61.7	54.2	30.4	61.0
Henry Hagg Lake	53.0	32.1	32.6	--
WEST COAST DRAINAGE				
Fourmile Lake	16.1	4.1	4.6	6.8
Fish Lake	8.0	3.7	5.2	3.8
Howard Prairie	60.0	47.3	38.1	43.3
Hyatt Prairie	16.1	10.1	8.7	9.8
Emigrant Lake	39.0	8.9	16.8	7.7
Lost Creek	315.0	128.8	143.9	--
Upper Klamath	584.0	138.9	294.1	332.4
Gerber	94.0	10.0	30.3	38.0
Clear Lake	440.2	96.3	149.1	206.0
Cottonwood	8.7	0.4	2.7	0.6
Drews	63.0	11.9	27.0	29.4
Thompson Valley	19.5	0.6	N/R	--

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon Department Of Water Resources
- Soil and Water Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - NOAA, National Weather Service
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Revlamation
  - Fish and Wildlife Service
  - Geological Survey
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific National

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of Portland
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale - Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- The Crag Rats, Hood River, Oregon

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